APPENDIX 17 – ENVIRONMENTAL DOCUMENTS

Appendix 17.1:	Cultural Resources Survey Washington State Department of Transportation SR 520 Urban Partnership Agreement Variable Tolling Project
Appendix 17.2:	SR520 Variable Tolling Project No Effect

Cultural Resources Survey
Washington State Department of Transportation
SR 520 Urban Partnership Agreement Variable Tolling Project
Evergreen Point Bridge
Seattle, King County, Washington

Report No. 08-37

Cultural Resources Program
Connie Walker Gray, WSDOT Architectural Historian

December 22, 2008

Washington State Department of Transportation
Urban Corridors Office
401 2nd Avenue South, Suite 560
Seattle, WA 98104

Executive Summary

The U.S. Department of Transportation's (USDOT) National Strategy to Reduce Congestion on America's Transportation Network, otherwise known as the Congestion Initiative, includes a component that calls for the Department to enter into Urban Partnership Agreements with model cities, pursuant to their commitment to, among other things, implementing "broad congestion pricing." Selected cities receive priority consideration for available Federal discretionary funds (about $1 billion).

In 2007, Washington State Department of Transportation (WSDOT), King County and the Puget Sound Regional Council submitted a successful application to join the Urban Partnership program. Known as the Lake Washington Urban Partnership Agreement, this cooperative effort will employ innovative traffic management tools for improving safety and traffic flow along State Route 520 and Interstate 90 between Seattle and the Eastside. It includes four key strategies, known as the four T's:

- Tolling
- Technology
- Transit
- Telecommuting

The SR 520 Urban Partnership Variable Tolling project is the tolling component of the Lake Washington Urban Partnership Agreement. This assessment evaluates the potential effects to historic properties as a result of variable tolling. Variable tolling can be defined as varying the price of tolls throughout the day to manage demand.

Because the USDOT is granting funds through the Federal Highway Administration (FHWA) to implement this project, Section 106 of the National Historic Preservation Act, as amended, applies. Section 106 requires that federal agencies evaluate the effects of their undertakings on historic properties. This report assists FHWA in fulfilling obligations under Section 106 and its implementing regulations, 36 CFR 800.

The Area of Potential Effects (APE) for this Variable Tolling Project is comprised of the SR 520 Bridge and approaches, as well as the portion of SR 520, just east of the bridge, where the control pads and cabinets will be located. The APE is entirely within the SR 520 right of way. The SR 520 Bridge, referred in this report as the Evergreen Point Bridge and also known as the Governor Albert D. Rosellini Bridge, is eligible for listing in the National Register of Historic Places. It is therefore considered a “historic property” as defined in 36 CFR 800.16(l)(1). However, as presently designed, the SR 520 Variable Tolling Project will have No Adverse Effect on the historic property. Provided the project description does not change, no further investigation is recommended for this project.

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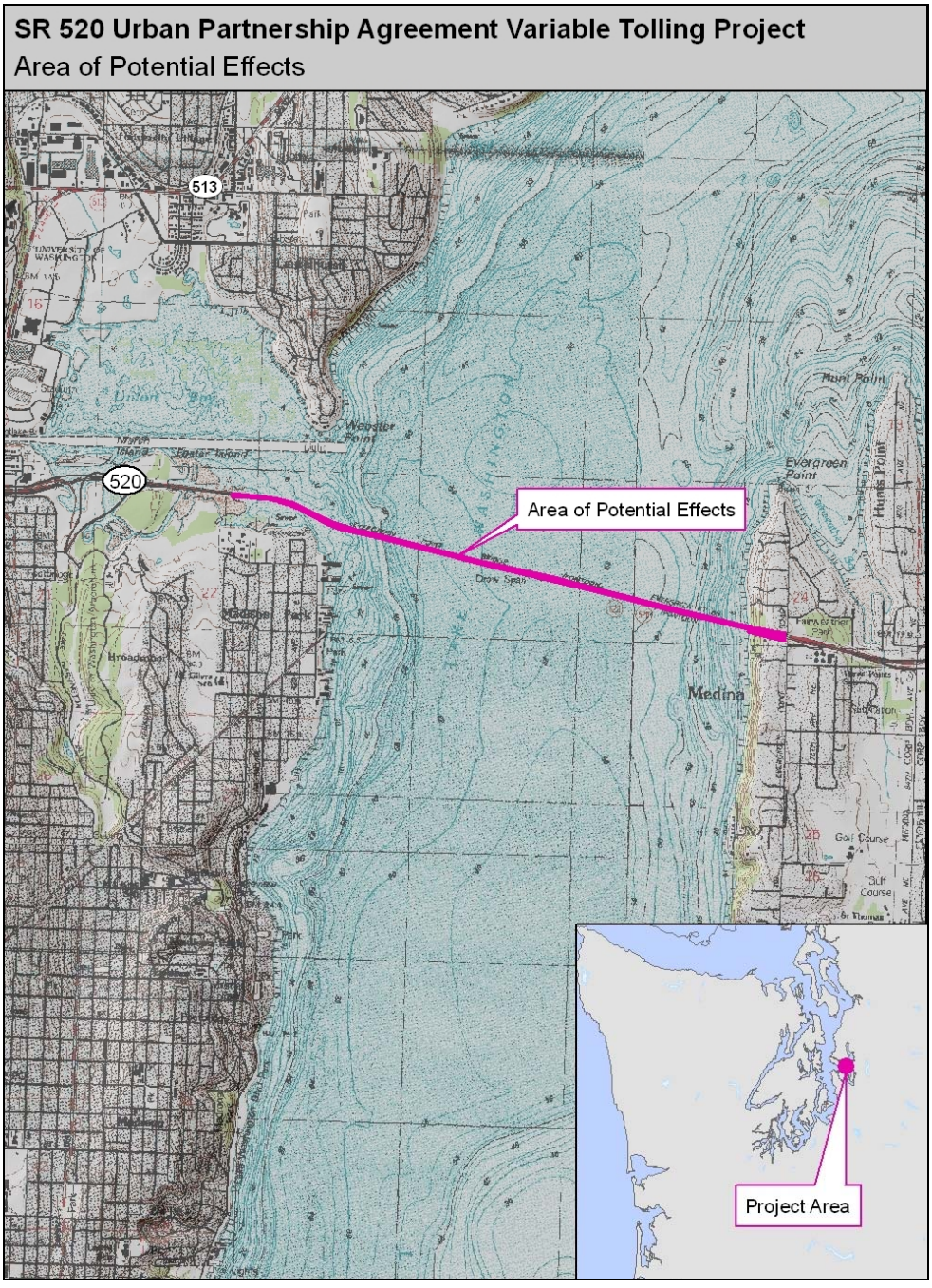
Area of Potential Effects (APE)

The Area of Potential Effects (APE) for this Variable Tolling Project is comprised of the SR 520 Bridge and approaches, as well as the portion of SR 520, just east of the bridge, where the control pads and cabinets will be located. The APE is entirely within the SR 520 right of way (Figure 1). It does not include any resources outside of the bridge footprint. This project has no potential to affect adjacent resources indirectly.

Figure 1. Area of Potential Effects



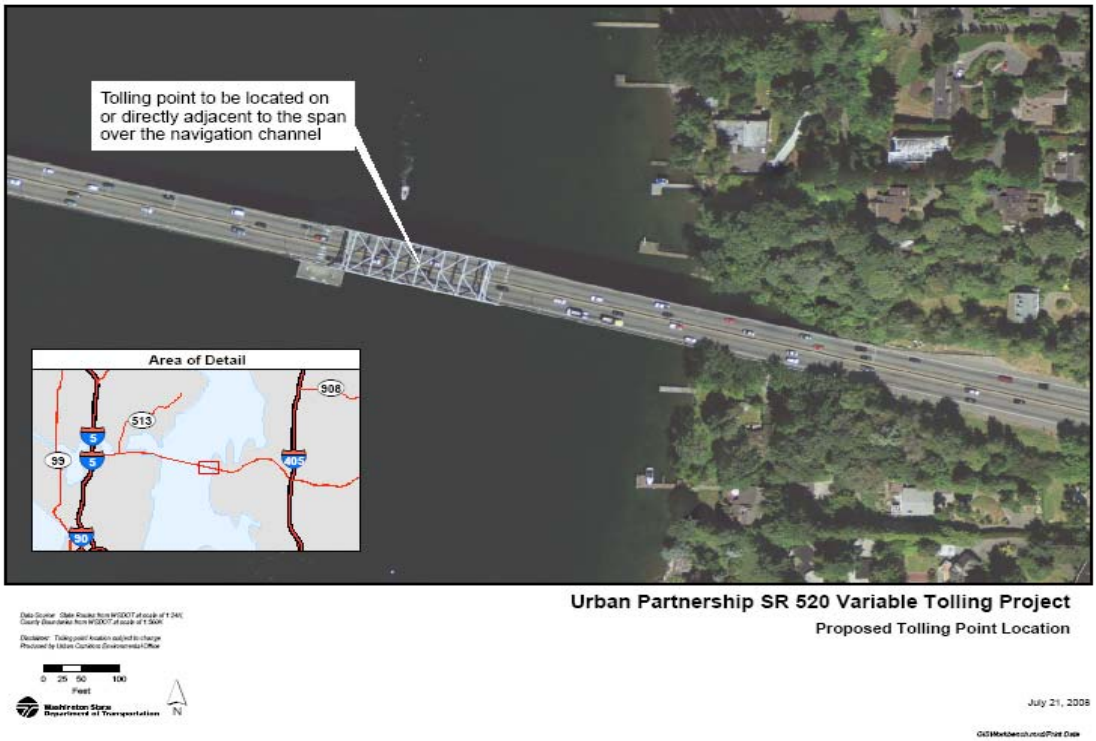
Project Description

This report outlines the potential effects to historic properties as a result of the SR 520 Urban Partnership Variable Tolling Project, the tolling component of the Lake Washington Urban Partnership Agreement. Variable tolling can be defined as varying the price of tolls throughout the day to manage demand.

Tolling Location

The tolling equipment will be located on the eastern end of the bridge either on the existing truss structure of the SR 520 Bridge, or on a separate set of gantries near the truss structure. This will ensure that only people crossing the bridge pay the toll and minimize diversion on local streets. Other locations were considered on land at either end of the bridge. Having the detection equipment and cameras on the bridge structure is preferable to a site located east or west of the bridge. Figure 2 shows the proposed location of the tolling equipment.

Figure 2. Proposed Location of the Tolling Equipment



Evaluation of Preferred Alternative against Other Alternatives

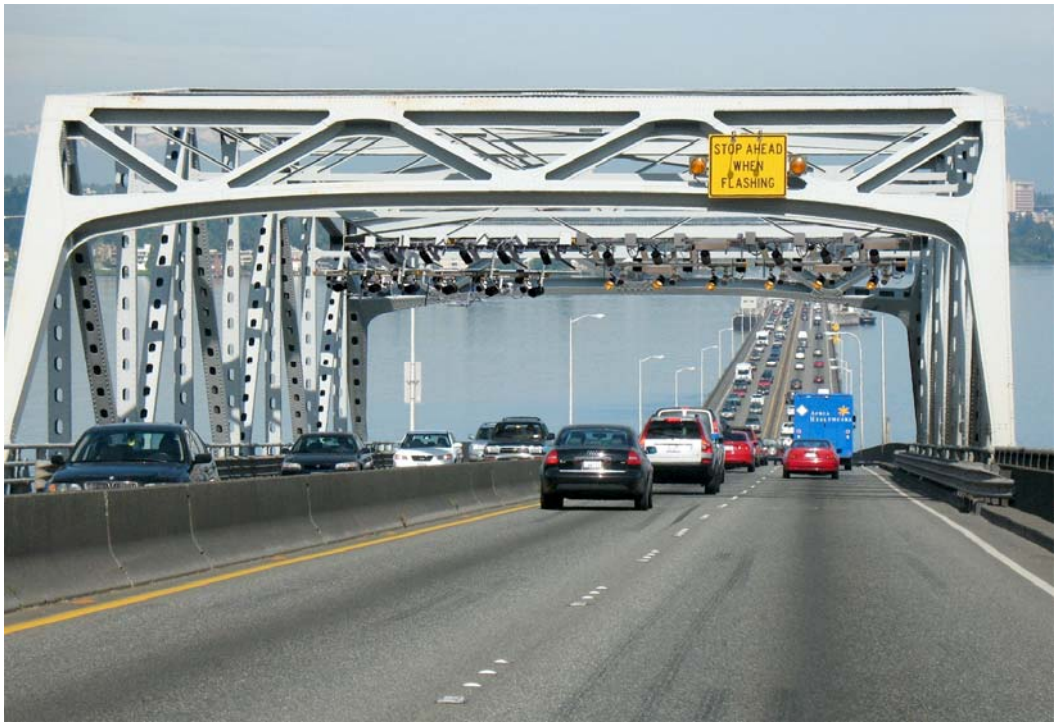
There is little room on the land at the west end of the bridge to build the structures required to hold the equipment, and the area is more environmentally sensitive than the east end. Land use at the east end of the bridge will not be preferable either because of the potential for conflicts with two other SR 520 projects, the Eastside Transit and HOV Project and the SR 520 Bridge Replacement and HOV Project. Both projects will include

construction just east of the bridge that will likely include lane shifts and require the relocation of any tolling equipment placed over those lanes. This is much less likely to occur if the bulk of the equipment is on the existing bridge structure itself.

Tolling Equipment

Tolling equipment will include overhead signs on the bridges for each direction of travel, an overhead automobile detection device, antennas and other equipment that will read in-vehicle transponders, video cameras over each lane to capture license plate images, and either visible or infrared lighting. In addition, roadside concrete pads with controller cabinets will be located on the east side of the lake just south of SR 520 in WSDOT right-of-way. A backup generator or simply a generator transfer switch for connection to a portable generator will be included in case of power outages. Figure 3 shows an illustration of tolling equipment on the SR 520 Bridge.

Figure 3. Illustration of Tolling Equipment on SR 520 Bridge



Tolling equipment will also include transponders to be placed in vehicle and linked to a prepaid *Good To Go!*^{TM} account. They will receive statements for their use of the bridge. This system is being used on both the Tacoma Narrows Bridge and the SR 167 HOT Lanes Pilot Project. Those without *Good To Go!*^{TM} accounts will automatically have their license plate photographed and a bill sent to the address of where the vehicle is registered. A surcharge will be added to the toll. These transactions will be managed through a Customer Service Center (CSC).

Proposed Schedule
Currently the proposed schedule includes developing procurement documents and advertising for contractors in 2009. The notice to proceed with construction will be given in mid-2009, and the project should be complete and opened in mid to late-2010. The project will be in place until the existing bridge is replaced in 2016.

Regulatory Environment

National Historic Preservation Act (NRHP)

The NRHP requires federal agencies to identify and consider the effects of federally assisted projects on historic properties. Historic properties generally must be at least 50 years old and meet at least one of four criteria of significance. According to the National Register Criteria for Evaluation:

> "The quality of significance in American history, architecture, archeology, engineering and culture is present in districts, sites, buildings structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
> B) That are associated with the lives of significant persons in our past; or
> C) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> D) That have yielded, or may be likely to yield, information important in history or prehistory (NRHP)."

Amendments to Section 101 of the NHPA in 1992 allowed inclusion of eligible properties of traditional cultural or religious importance to the National Register.

The Evergreen Point Bridge is partially located within the City of Seattle, which administers its own historic preservation program.

The City of Seattle Historic Preservation Program, part of the Department of Neighborhoods, oversees historic preservation. The Landmarks Preservation Board is appointed by the Mayor and confirmed by the City Council. It is governed by the Landmarks Preservation Ordinance, SMC 25.12. Its primary objectives are to encourage the rehabilitation and reuse of historic properties for public and private use; to promote the recognition, protection, and enhancement of landmark buildings, objects, and sites of historic, architectural, and cultural significance in Seattle; and to identify, protect, preserve, and perpetuate the cultural, economic, historical, and architectural qualities of historic landmarks and districts throughout the city.

According to the City of Seattle Department of Neighborhoods website, "the appearance and historical integrity of structures and public spaces within each district are regulated by a citizens board and/or the Landmarks Preservation Board in accordance with processes and criteria established by City ordinance" (http://www.seattle.gov /neighborhoods/preservation/ historic_districts.htm. Viewed 9/3/08.)

Designation as a City of Seattle landmark requires that the resource be at least 25 years old, that it retains sufficient integrity to convey its significance, and that it be significant under at least one of six criteria (SMC 25.12.350):

a. It is the location of, or is associated in a significant way with, a historic event that had a significant effect on the community, city, state, or nation; or

b. It is associated in a significant way with the life of a person important in the history of the city, state, or nation; or

c. It is associated in a significant way with a significant aspect of the cultural, political, or economic heritage of the community, city, state, or nation; or

d. It embodies the distinctive visible characteristics of an architectural style, or period, or method of construction; or

e. It is an outstanding work of a designer or builder; or

f. Because of its prominence of spatial location, contrasts of siting, age, or scale, it is an easily identifiable visual feature of the neighborhood or the city and contributes to the distinctive quality or identity of such neighborhood or the city.

Survey Results

Historic Significance of the Evergreen Point Bridge

The Evergreen Point (Albert D. Rosellini) Bridge was completed and placed in service in 1963, four miles north of the first floating bridge on Lake Washington - the I-90 Lacey V. Murrow Memorial Bridge. A second floating bridge was considered by local residents as early as 1946, but it wasn't until 1960 that work on the bridge actually began. In accordance with national trends, the population of the Puget Sound region expanded considerably in the period following World War II. Thanks to the I-90 Lacey V. Murrow Memorial Bridge, Lake Washington's east side was the fastest growing area in the region, as much as an 88 percent increase between 1950 and 1960. Citizens began calling for additional methods to cross Lake Washington (Holstine and Hobbs 2005).

After years of debate of where to locate the new floating bridge, the Washington State Toll Bridge Authority in 1957 determined that it would build two bridges: a new floating bridge at the current I-90/Lacey V. Murrow Bridge site and a new floating bridge connecting Seattle's Montlake community with Evergreen Point in Bellevue. Governor Albert Rosellini was a staunch advocate of the plan, and participated in the

groundbreaking ceremony by driving a bulldozer. In 1988, the bridge was named in Governor Rosellini's honor (Holstine and Hobbs 2005).

According to Craig Holstine and Richard Hobbs' comprehensive Washington State bridge book, *Spanning Washington*:

> More than two years (837 days) of construction brought the bridge to completion. At 1.4 miles in length, it was the largest floating span in the world. With a $25 million price tag (the floating section alone cost $10.9 million), it was also the most expensive. Located some four miles north of the first floating span, it was the central segment of a 5.8-mile project to connect two main north-south highways, Interstate 405 on the lake's east side and Seattle's Interstate 5 (Holstine and Hobbs 174)

The bridge was partially financed by a thirty-five cent toll, that helped pay for a forty year, $30 million bond. The bridge was far more widely used than the State Toll Bridge Authority expected: the bond was paid off 24 years early, in June 1979. The toll booths were removed that year (Holstine and Hobbs 2005).

When the original Lake Washington floating bridge sank in 1990, the Evergreen Point Bridge became Lake Washington's oldest floating bridge. When built, it was also the state's most expensive. It has been minimally altered. It now sees traffic congestion that could not have been anticipated by its engineers. Its intended maximum capacity was 65,000 cars per day; it currently sees as many as 115,000 vehicles per day.

Description of the Evergreen Point Bridge

The SR 520 Evergreen Point Bridge, the second span across Lake Washington, lies four miles to the north of the I-90 Lacey V. Murrow Memorial Bridge. The floating section of the four-lane bridge is 7,578 feet long and 43 feet wide, and includes a two-foot median and a three-foot walkway. A notable design characteristic was the "no bulge" lift-draw span that opens to 200 feet to allow passage of ships. The lift spans are raised seven feet, allowing retraction of the moveable pontoons. Large pleasure crafts are able to pass under the elevated fixed piers at the both ends of the floating section. The Evergreen Point Bridge floats on 35 pontoons. The largest pontoon weighs 6,700 tons, and measures 360 feet long and 60 feet wide, with a depth of 14.8 feet. The pontoons are connected to reinforced concrete anchors by two ¾-inch steel cables. There are 62 anchors in total, each weighing 77 tons (Holstine and Hobbs 2005).

Determination of NRHP Eligibility

Although the Evergreen Point Bridge was constructed in 1963, it is eligible for listing in the National Register of Historic Places. It is eligible under Criteria consideration G, "A property achieving significance within the past 50 years if it is of exceptional

importance" (NR Bulletin, *How to Apply the National Register Criteria for Evaluation*). The bridge will be 50 years old in 2013. A Washington State Historic Property Inventory (HPI) Form, prepared by Lori Durio of CH2M Hill, is included in Appendix A.

Determination of No Adverse Effect

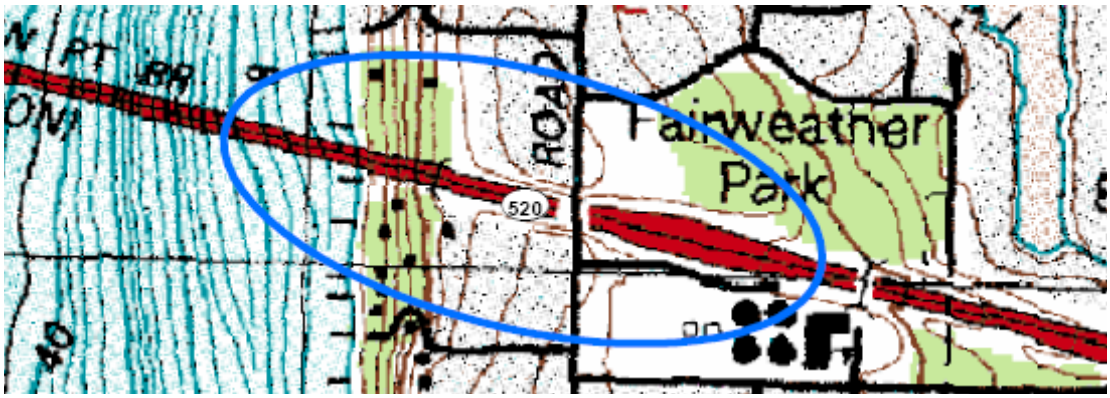
Installation of the tolling equipment on the truss structure will constitute no adverse effect to the historic property under 36 CFR part 800.5. The tolling equipment will not compromise the Evergreen Point Bridge's integrity of location, design, workmanship, materials, setting, feeling, or association. The tolling equipment will only be minimally noticeable from the bridge, and will be limited to some small equipment such as cameras and transponder readers over the roadway. There also may be overhead signs alerting motorists of lane changes or travel time. This signage and equipment are minor, and will not alter any of the characteristics of the Evergreen Point Bridge that form the basis of its eligibility for listing in the NRHP.

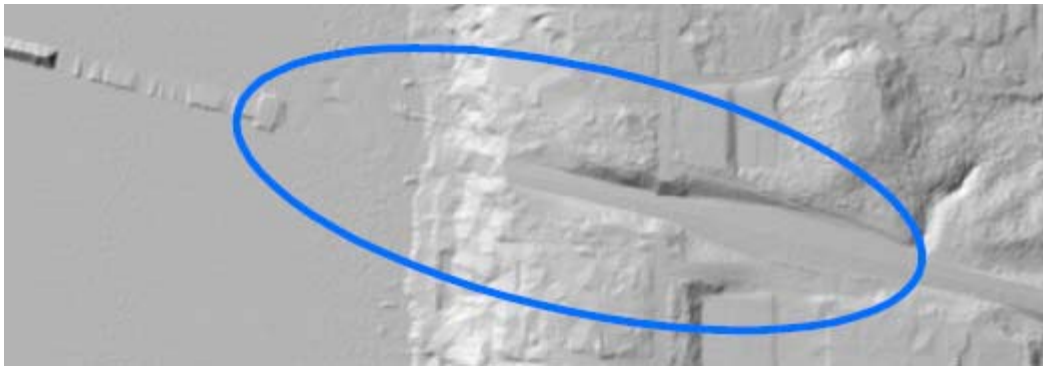
Electrical lines needed to power the tolling equipment will be placed within existing steel-pipe conduit on the bridge and within a newly installed buried conduit that terminates at electrical-supply cabinets at the old tolling plaza located approximately 900 feet east of the bridge. All ground disturbance associated with electrical supply will be confined entirely to the SR 520 right-of-way in areas previously disturbed by highway construction. UCO Archaeologist Ken Juell conducted a windshield survey of this area, along with a review of King County aerial photos and the USGS 7.5 min, topographic map on the WSDOT GIS, and a review of the LiDAR topographic map available online at the Puget Sound LiDAR Consortium website (December 19, 2008). The reconnaissance and research indicates that the power-supply corridor, the SR 520 roadway, and the old tolling plaza are located within a deeply excavated trough or road-cut (Figure 4). Such extensive excavation which would have removed or displaced the Holocene sedimentary sequence and any archaeological resource contained therein. Thus there is no potential to affect archaeological historic properties within the project area east of the bridge structure.

Conclusions

The SR 520 Urban Partnership Agreement Variable Tolling Project will have no adverse effect on the NRHP-eligible Evergreen Point Bridge. No further investigation is recommended for this project.

Figure 4. Eastside Approach to the Evergreen Point Bridge as shown on USGS 7.5 x 15 min. quad. Bellevue North, WA 1982 (above) and Puget Sound LiDAR Consortium image (below)





Note: The SR 520 Old Tolling Plaza is the widened roadway south of Fairweather Park. The SR 520 right-of-way traverses, and the Old Tolling Plaza lies within, a deeply excavated trough.

References Cited

Durio, Lori
2008 Washington State DAHP Historic Property Inventory Form, "Governor Albert D. Rossellini Bridge." On file at DAHP, Olympia.

Holstine, Craig and Richard Hobbs
2005 *Spanning Washington: Historic Highway Bridges of the Evergreen State.* Washington State University Press, Pullman.

Puget Sound LiDAR Consortium
2008 Topographic images. http://pugetsoundlidar.ess.washington.edu/lidardata/

Appendix A

Historic Property Inventory Form, Evergreen Point Bridge

Historic Property Inventory Report for *Governor Albert D. Rosellini Bridge* **at** *Lake Washington, vicinity of Seattle, WA*

LOCATION SECTION

Field Site No.: SR5 **OAHP No.:**

Historic Name: *Governor Albert D. Rosellini Bridge* **Common Name:** *Evergreen Point Bridge*

Property Address: Lake Washington, vicinity of Seattle, WA **Comments:** Bridge stretches from the Montlake area of Seattle, east across Lake Washington to Evergreen Point in Medina

County	Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	Quadrangle
King					SEATTLE NORTH

UTM Reference
Zone: 10 **Spatial Type:** Point **Acquisition Code:** Other
Sequence: 1 **Easting:** 553897 **Northing:** 5277039
Sequence: 2 **Easting:** 556881 **Northing:** 5276342

Tax No./Parcel No.: N/A **Plat/Block/Lot:** N/A **Supplemental Map(s):** **Acreage:**

IDENTIFICATION SECTION

Survey Name: SR 520 Bridge Replacement

Field Recorder: Lori Durio **Date Recorded:** 10/2/2008

Owner's Name:	Owner Address:	City/State/Zip:
State of Washington, Department of Transportation	310 Maple Park Avenue SE	Olympia, WA 98504

Classification: Structure **Resource Status:** Survey/Inventory **Comments:**

Within a District? No

Contributing?

National Register Nomination:

Local District:

National Register District/Thematic Nomination Name:

View of Looking east from Montlake area **taken** 3/7/2004

Photography Neg. No (Roll No./Frame No.): N/A

Comments:

DESCRIPTION SECTION

Historic Use: Transportation - Road-Related (vehicular)

Current Use: Transportation - Road-Related (vehicular)

Plan: Other **No. of Stories:** N/A

Structural System: Other

Historic Property Inventory Report for *Governor Albert D. Rosellini Bridge* **at** *Lake Washington, vicinity of Seattle, WA*

Changes to plan: Intact	**Changes to interior:**	**Style**	**Form/Type**
Changes to original cladding:	**Changes to other:**	Other	Other
Changes to windows:	**Other (specify):** Replacement of dra		
Cladding	**Foundation**	**Roof Material**	**Roof Type**
None	Concrete - Poured Other	None	None

NARRATIVE SECTION

Study Unit / **Other**

Transportation
Community Planning/Development
Science & Engineering

Date Of Construction: 1960-63

Architect:

Builder: Guy Atkinson; General Construction Co; Manson Con.

Engineer: Charles E. Andrews, Ken Arkin, Mike Thomas, et al

Property appears to meet criteria for the National Register of Historic Places: Yes

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local):

Statement of Significance

The Evergreen Point Bridge, the second span across Lake Washington, lies 4 miles north of the first floating bridge, the Lacey V. Murrow Memorial Bridge. The Evergreen Point Bridge formed the center portion of the 5.8-mile project connecting the area's two main north-south highways, Interstate 405 on the lake's east side and Seattle's Interstate 5. (Hobbs and Holstine 2004). Construction on the Evergreen Point Bridge began in August 1960 and tock almost 3 years (837 days) to complete (Hobbs and Holstine 2004). Its opening ceremony was held August 28, 1963. Although still generally referred to as the Evergreen Point bridge, it was officially renamed the Governor Albert D. Rosellini Bridge in 1988 (Mauldin, n.d.).

The floating pontoon bridge design was originally conceived by engineer Homer Hadley and was first used on the Lacey V. Murrow bridge. Charles E. Andrew was chief consulting engineer on the Evergreen Point Bridge for the State Toll Bridge Authority. Ken Arkin was senior field engineer in charge of field engineering for the bridge, and Mike Thomas was design engineer for the structure. ("Bridge Offices..." 1954) The Project Engineer was Harold S. Sitzman, and the Resident Engineer was John C. Tucker. ("Evergreen Point Bridge" nd) The contractor for the floating portion was Guy F. Atkinson, and for the approach structures, the contractors were General Construction Company and Manson Construction and Engineering Company. ("Vital Statistics" n.d.)

At the time of its construction, the Evergreen Point Bridge was the largest floating span in the world at 1.4 miles long. It cost $24,972,000 (the floating section alone was $10.9 million), making it the most expensive floating bridge in the world (Hobbs and Holstine 2004). The State Toll Bridge Authority issued a $30 million bond for the bridge, with a 40-year retirement limit. The bridge had a 35-cent toll from 1963 to 1979. In June 1979, the bond was paid in full (20 years ahead of schedule) and the toll booths were removed. The bridge enabled the rapid growth of the north part of the Eastside, especially northern Bellevue, Redmond and Kirkland, leading to greatly increased development and with it, greatly increased commuter traffic.

Changes to the bridge over the years have mostly consisted of basic maintenance tasks, such as painting, cable replacement, repair/replacement of expansion joints, replacement and rehabilitation of guide rollers, repair of columns, and miscellaneous electrical and mechanical rehabilitation. More substantial work was done to increase the safety of the bridge, including the replacement of the draw span and the addition of an emergency stop bar in 1994, the addition of ladders and catwalks to selected pontoons, and the installation of a median barrier. None of these alterations are substantial and do not detract from the appearance, operation or significance of the bridge.

The bridge, having had few substantial alterations over its lifetime, appears today much as it did when completed in 1963. It continues to fulfill its original function, although it now must handle more than twice its intended capacity. The bridge is already over 40 years old, and will meet the 50 year mark for National Register eligibility in August 2013. Although it is not yet 50 years old, it qualifies for the NRHP under Criteria Consideration G for its exceptional importance. With the sinking of the original Lake Washington floating

bridge, the Evergreen Point Bridge became the oldest remaining floating bridge across Lake Washington, exemplifying an engineering feat of outstanding proportions. As noted above, it was also the longest and most expensive at its time of construction. It is eligible for the NRHP as a structure under criterion A for its significant impact on the development of the Seattle area, specifically on the communities on the east side of Lake Washington, and criterion C for its outstanding and innovative engineering design.

Description of Physical Appearance

The bridge stretches from the Montlake area of Seattle, across Lake Washington to Medina. The floating section of the bridge is 7,578 feet long (1.4 miles), with 33 floating sections and 62 anchors. A standard pontoon measures 360 feet long by 60 feet wide and 14'9" deep, and weighs 4,725 tons. ("Vital Statistics" n.d) The 62 reinforced-concrete anchors each weigh 77 tons and are connected to the pontoons by two ¾-inch steel cables. The roadway accommodates four lanes of traffic and is 54 feet wide. It has a 2-foot-wide median and 3-foot-wide walkway. The Evergreen Point Bridge was designed with a "no bulge" lift-draw span which opens to 200 feet to allow passage of ships. The lift spans are raised 7 feet, allowing retraction of the moveable pontoons. At each end of the floating section, elevated steel truss spans with fixed piers connect to the shore and provide enough vertical clearance to accommodate large pleasure craft (Hobbs and Holstine 2004).

Major Bibliographic References

"Bridge Offices Will Be Brought to U. On Barge," Seattle Times. August 13, 1954.

"Evergreen Point Bridge." n.d.

Hobbs, Richard S. and Craig E. Holstine. Spanning Washington: Historic Highway Bridges of the Evergreen State, "Our Amazing Floating Bridges." Publication pending, January 2004.

Mauldin, D. B. "Washington's Wondrous Highways That Float," newspaper clipping in DOT Environmental Affairs Office. n/d.

"Record of Contract Work (1972-2002)" n.d.

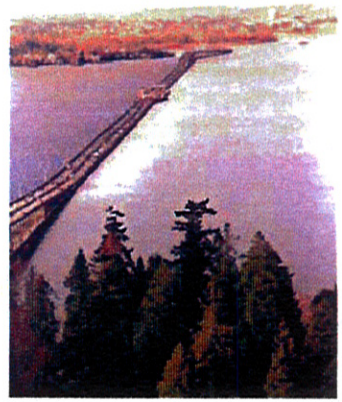
SR 520 Bridge Replacement & HOV Project. "Vital Statistics Our Bridge Today." n.d. http://www.wsdot.wa.gov/projects/SR520Bridge/faqs.htm Accessed on June 24, 2004.

Additional Photos for: *Governor Albert D. Rosellini Bridge* **at** *Lake Washington, vicinity of Seattle, WA*

View of aerial view of bridge, looking east **taken** 3/7/2004

Photography Neg. No (Roll No./Frame No.): N/A

Comments:



View of aerial view of bridge, looking west from Medina **taken** 3/7/2004

Photography Neg. No (Roll No./Frame No.):

Comments:

View of **taken**

Photography Neg. No (Roll No./Frame No.):

Comments:

View of **taken**

Photography Neg. No (Roll No./Frame No.):

Comments:

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